REMARKS

In a Restriction Requirement mailed October 8, 2004, the Examiner imposed a five-way restriction to original Claims 1-34. In Response, Applicants elected to prosecute product Claims 1-4 of Group I, and asserted their intention to retain the right to rejoinder process Claims 5-34 of Groups II-V. In an Office Action mailed December 30, 2004, the Examiner has raised the following issues, which are set forth by number in the order they are addressed:

1) Claims 1 and 2 stand rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Lee *et al., J. Virol Methods,* 39:39-46, 1992;

2) Claims 1 and 3 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Brumback and Wade, *J Clin Microbiol,* 34:798-801, 1996, and Hierholzer *et al., J Clin Microbiol,* 31:1504-1510, 1993;

3) Claims 1 and 4 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Lee *et al., J. Virol Methods,* 39:39-46, 1992, and Hierholzer *et al., J Clin Microbiol,* 31:1504-1510, 1993;

4) Claims 1 and 2 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Brumback and Wade, *J Clin Microbiol,* 34:798-801, 1996; and Huang *et al., J Clin Microbiol*, 38:422-423, 2000; and

5) Claims 1 and 4 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Brumback and Wade, *J Clin Microbiol,* 34:798-801, 1996; and Huang *et al., J Clin Microbiol*, 38:422-423, 2000, in view of Hierholzer *et al., J Clin Microbiol,* 31:1504-1510, 1993.

Applicants respectfully remind the Examiner that upon finding a product claim to be allowable, that any process claim(s) depending from or otherwise including all of the limitations of the allowable product claim should be rejoined (MPEP, 821.04).

1. The Claims Are Novel over Lee

The Examiner has rejected Claims 1 and 2 under 35 U.S.C. § 102(b) as allegedly anticipated by Lee *et al., J. Virol Methods,* 39:39-46, 1992 (Lee). The Examiner states:

> Lee *et al.* disclosed a composition comprising of cell culture MDCK and A549 (see page 41, 2nd full paragraph). The composition disclosed by Lee *et al* is the same as now claimed composition (Office Action, page 2).

Applicants respectfully disagree that the claimed invention is anticipated, as Lee fails to teach or suggest a **mixed cell culture**. Rather, Lee discloses:

> [f]or specimen inoculation, maintenance medium of two MDCK and two A549 shell vial cultures was aspirated from the monolayers and each vial was inoculated with 0.2 ml of the vortexed specimen (Lee, page 42, middle paragraph). ... The costs incurred by this change were minimal and can be further reduced by only using MDCK cells during the influenza season (Lee, page 46, last sentence of discussion).

Applicants contend that Lee discloses a *single cell culture* comprising MDCK cells, and a *single cell culture* comprising A549 cells, and that for detection of influenza the latter cells need not be employed. In contrast, Applicants teach that a mixed cell culture is a culture that is generated by a **multi-step process.** This process involves first separately culturing two or more cell types (*e.g.*, cell lines, primary cells, *etc.*), followed by mixing of the separately cultured two or more cell types, and then culturing the mixed cell types to generate a mixed cell culture (Specification, at page 40, lines 1-34). As Claims 1 and 2 are novel over Lee, Applicants respectfully request that this rejection be withdrawn.

2. The Claims Are Non-Obvious Over Brumback and Hierholzer

The Examiner has rejected Claims 1 and 3 under 35 U.S.C. § 103(a) as allegedly unpatentable over Brumback and Wade, *J Clin Microbiol,* 34:798-801, 1996 (Brumback), and Hierholzer *et al., J Clin Microbiol,* 31:1504-1510, 1993 (Hierholzer). The Examiner states:

> Brumback et al taught mixture of MDCK cells and RMK cells and showed that combination proved sensitive in detection of influenza virus (see the abstract, and page 801, left column, 1st full paragraph). This only differs since they did not mix H292 cells with MDCK cells. ... Hierholzer et al had already taught H292 could be a viable substitute to other cells for viral growth and detection. In addition, Brumback et al had also disclosed that MDCK can be mixed with another cell type which not only prove efficacious but rather the mixture proved to be even more sensitive (Office Action, pages 3 and 4).

Applicants respectfully disagree that the claims are obvious over Brumback and Hierholzer, as this combination does not teach or suggest a **mixed cell culture**.

In fact, Brumback's "quadruple culture" comprises:

> four different cell types in sets of four adjacent wells. Each set contained one well each of RMK cells (ViroMed Laboratories, Inc.) ... MDCK cells (ATCC CCL34) ... A549 cells (ATCC CCL185) ... and LLC-MK_2 cells (ATCC CCL7). ... Cell monolayers were then stained directly in the plates by a four-step indirect immunofluorescence-alkaline phosphatase stain using pooled reagents [influenza A, influenza B, RSV and parainfluenza antibodies] (Brumback, page 798, plate seeding and quadruple culture paragraphs). ... We did not find the addition of A549 or LLC-MK_2 advantageous and subsequently removed these lines from the quadruple culture protocol (Brumback, page 801, last sentence of 1st full paragraph).

In contrast to the Examiner's interpretation, Applicants contend that Brumback discloses a *single cell culture* comprising RMK cells, a *single cell culture* comprising MDCK cells, a *single cell culture* comprising A549 cells, and a *single cell culture* comprising LLC-MK_2 cells. Moreover, in improved embodiments, Brumback eliminated the A549 single cell culture and the LLC-MK_2 single cell culture. Moreover, Hierholzer does not remedy this deficiency, as Hierholzer also fails to disclose mixed cell cultures.

3. The Claims Are Non-Obvious Over Lee and Hierholzer

The Examiner has rejected Claims 1 and 4 under 35 U.S.C. § 103(a) as allegedly unpatentable over Lee *et al., J. Virol Methods,* 39:39-46, 1992 (Lee), and Hierholzer *et al., J Clin Microbiol,* 31:1504-1510, 1993 (Hierholzer). The Examiner states:

> Hierholzer et al had already taught H292 could be a viable substitute to other cells for viral growth and detection. In addition, Lee et al had also disclosed that MDCK could be mixed with another cell type such as A549. Hence, adding another well-known cells such as H292 with MDCK and A549 would have been within purview of one of ordinary skill in the art absent any unexpected results (Office Action, pages 4 and 5).

Applicants respectfully disagree that the claimed invention is obvious over the Lee and Hierholzer combination, since this combination does not teach or suggest a **mixed cell culture**. As put forth in section 1 above, Lee does not disclose mixed cell cultures, while Hierholzer does

***** VERSION SHOWING CHANGES MADE*****

1. (Currently Amended) A method of treating wastewater comprising:

a) providing a wastewater source containing a biomass;

b) adding a supply of simple sugar to the wastewater source;

c) adding a supply of white rot fungus into the wastewater source in the presence of the simple sugar wherein the simple sugar accelerates the production of ~~pholoxidases~~ phenoloxidases from the white rot fungus which break down at least a portion of the biomass; and

d) as a result of the breaking down of the biomass, thereby decreasing at least one of a phosphorous amount, an amount of color in the wastewater, an odor of the wastewater, an ammonia amount in the wastewater, an amount of volume by weight solids suspended in the wastewater, and an amount of sludge that can not be effectively separated from the wastewater sludge.

2. (Original) The method of claim 1 wherein the step of adding the simple sugar further comprises the step of converting at least some of the biomass to glucose by a brown rot fungus.

3. (Original) The method of claim 2 further comprising the step of adding the brown rot fungus to the wastewater source wherein at least one of prior to the step of adding the white rot fungus and contemporaneous with the step of adding white rot fungus.

> for mixed cell cultures, as well as single cell cultures for the identification of this virus ('915 Patent, at column 26, lines 54-58).

Further support for the claimed invention is found in Example 1:

> Examples of monolayers that produced this appearance were mink lung cells co-cultivated with NCI-H292 cells, mink lung cells co-cultivated by buffalo green monkey kidney (BGMK) cells, and human lung carcinoma A549 cells co-cultivated with NCI-H292 cells ('915 Patent, at column 23, lines 43-47).

Thus, Applicants contend that priority of the claimed invention should be the filing date of the '915 Patent, namely April 24, 1998. As the Huang and Turchek reference (J Clin Microbiol, 38:422-423, 2000) was published well after this date (January 2000), the Huang and Turchek reference is not prior art. For this reason, Applicants respectfully request that the prior art rejections in view of Huang and Turchek be withdrawn.

CONCLUSION

Applicants believe the amendments and arguments set forth above traverse the Examiner's rejections and, therefore request that a timely Notice of Allowance be issued in this case. However, should the Examiner believe that a telephone interview would aid in the prosecution of this application, Applicants encourage the Examiner to call the undersigned collect.

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